

Montana SAVA

**Retirement Program DESIGNER®
for the State of Montana Public
Employees' Retirement System**

June 25, 2010

File Edit View Insert Format Tools Data Table Window Live Meeting Help Designer Navigation

[quickly evaluate changes]

Retirement Program

Designer®

Pension & Medical

For Windows XP Ver. 2009 US

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RETIREMENT PROGRAM DESIGNER[®]

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ASSUMPTIONS

General Assumptions
Medical Assumptions
International Assumptions

1

DATA INPUTS

Participants Data
Distribution Data
Cost Data

2

PLAN PROVISIONS

Coded Plans | Parameterized Plans | Post Ret. Medical

CP1 - Current Plan /
CP2 - Revised DB Plan /
CP3 - / Money Purchase Plan
CP4 - /
CP5 - /
CP6 - /
CP7 - /
CP8 - /

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OUTPUTS

Line Graph	Statements
Bar Graph	Data Processing
Benefit Comparison Distribution	Cost
Scatter Graph	Cost Benchmarking



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Designer® for Public Employees' Retirement System

- Three basic plan designs have been programmed into the software:
 - Current Plan
 - Revised DB Plan
 - Money Purchase Plan
- Several options on the following plan features are available to modify during the June 25 meeting:
 - Vesting schedule (Revised DB and MPP)
 - Final average salary period (Revised DB)
 - PRO (Revised DB)
 - Pay crediting rates (MPP)
 - Interest crediting rates (MPP)

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- Options for the vesting schedule:
 - Immediate vesting
 - 5 year cliff
 - 10 year cliff
 - 3-7 year graded
 - 5-10 year graded
 - 5-15 year graded
- Options for the final average salary period are 3, 5, 7 and 10 years
- Options for the PRO:
 - No PRO
 - Increased multiplier applied to all service after reaching 30 years
 - Increased multiplier applied to service in excess of 30 years
- In addition to vesting, the member pay credits, employer pay credits and interest credits can be modified for the Money Purchase Plan

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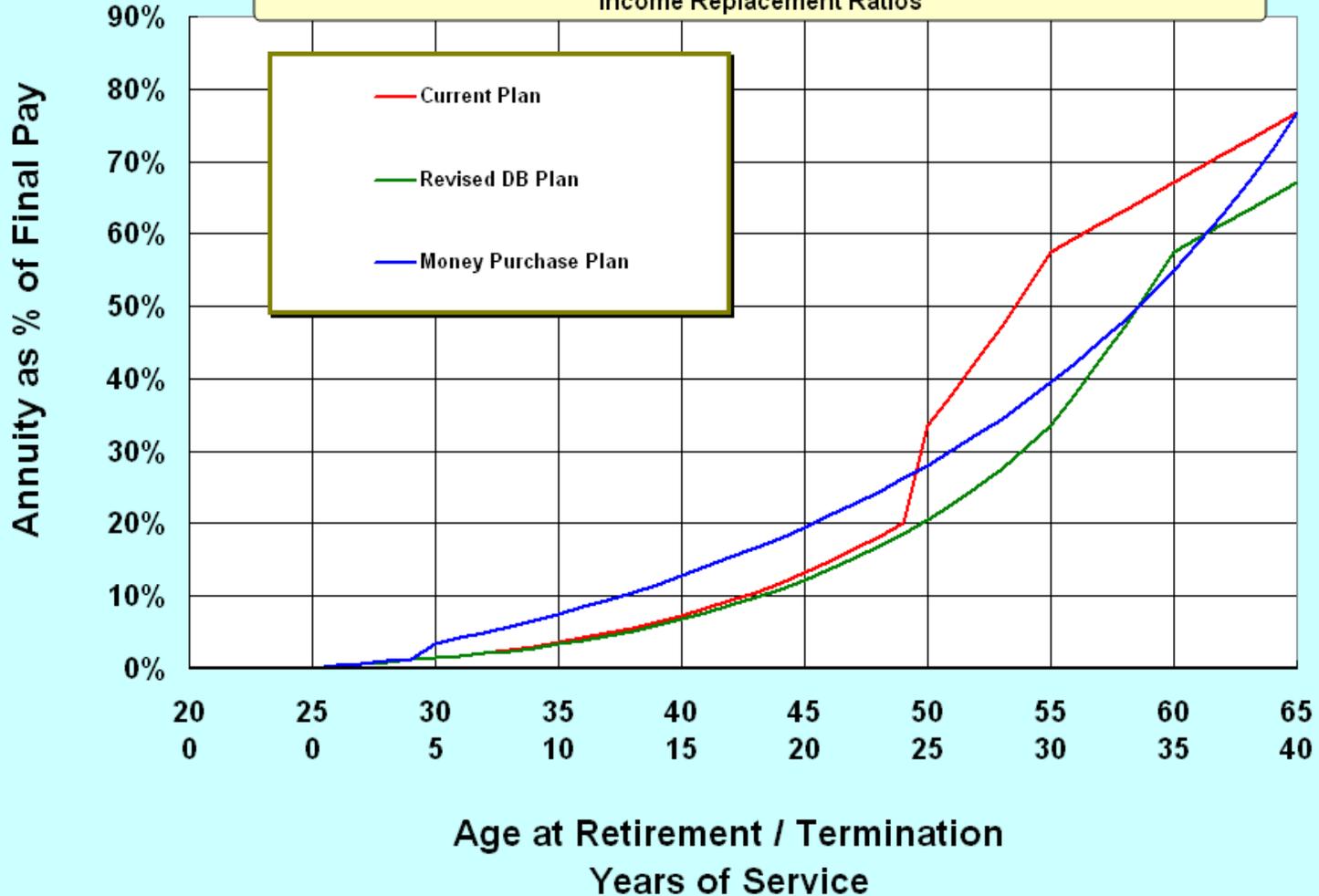
Designer® for Public Employees' Retirement System

- For the purpose of the exhibits included here, the following options have been applied:
 - Revised DB Plan:
 - 3 year final average salary period
 - No PRO
 - 5 year cliff vesting
 - MPP:
 - 6.90% member contributions
 - 6.90% employer pay credits
 - 7.00% interest credits
 - 5 year cliff vesting
- These options are a starting point to demonstrate the exhibits that will be prepared during the June 25th meeting and are not recommendations

Montana Public Employees' Retirement System

Current Age: 25, Past Service: 0
 Current Pay: \$30,000, Salary Increase Rate: Variable

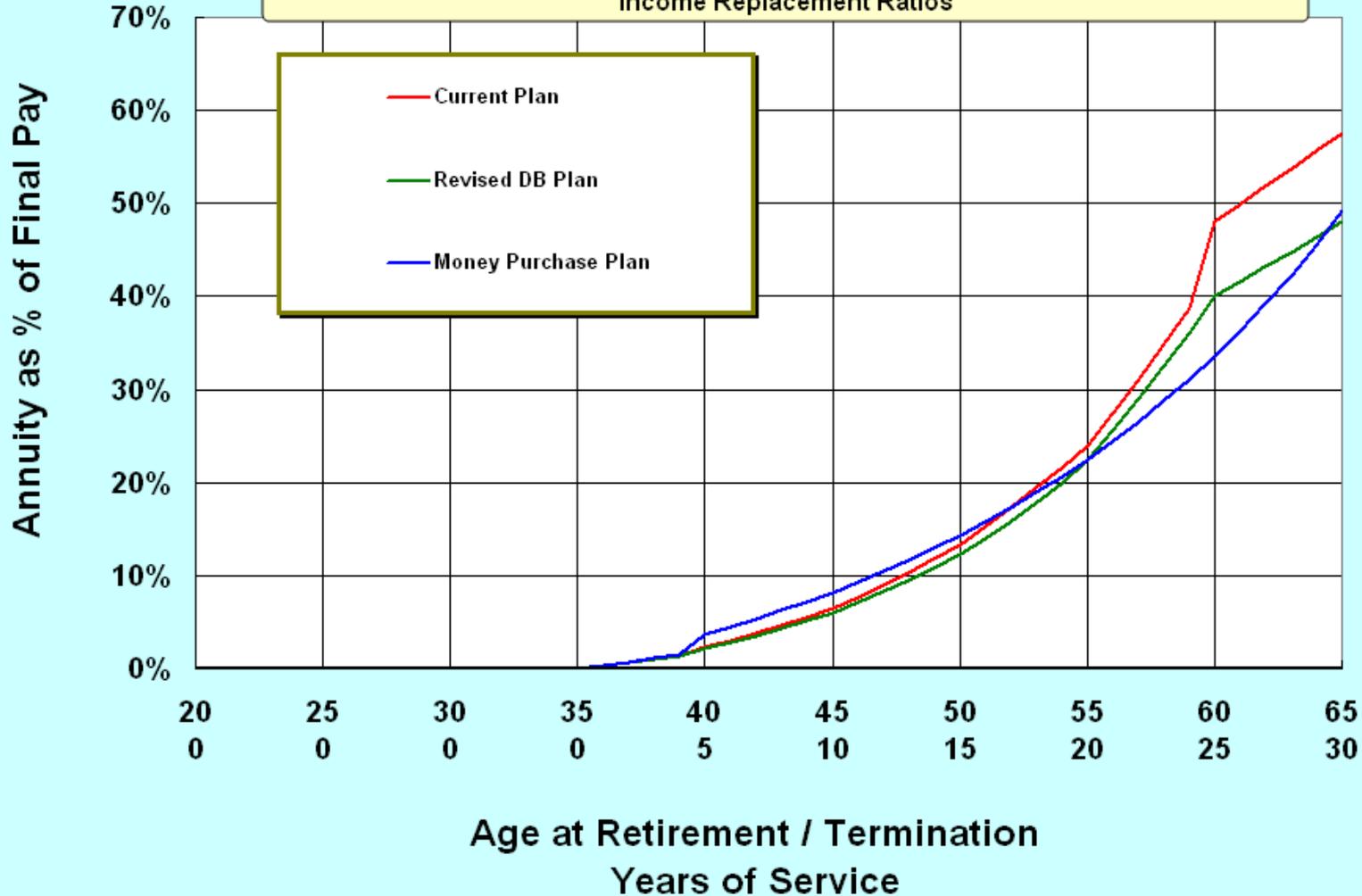
Income Replacement Ratios



Montana Public Employees' Retirement System

Current Age: 35, Past Service: 0
Current Pay: \$40,000, Salary Increase Rate: Variable

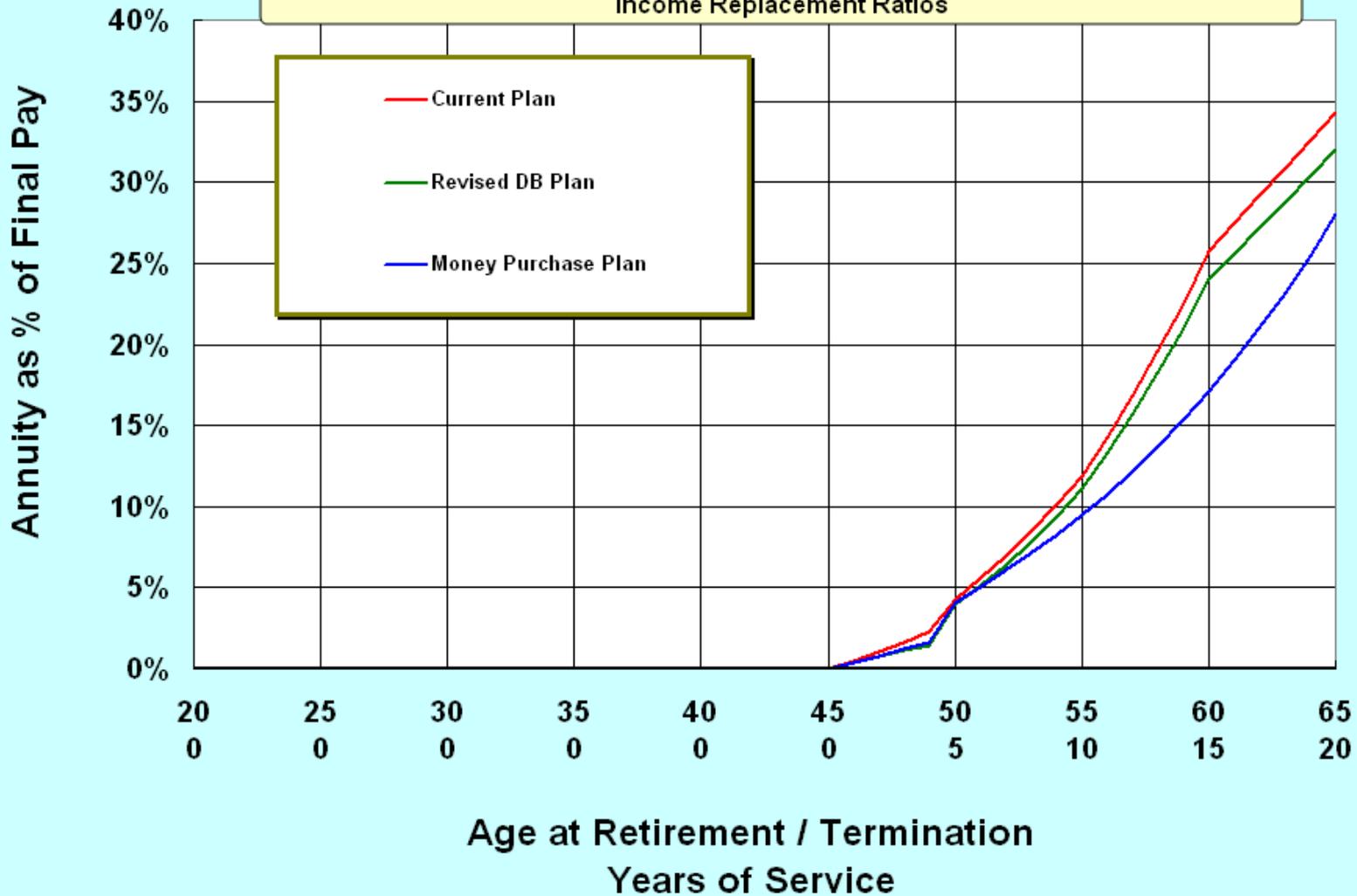
Income Replacement Ratios



Montana Public Employees' Retirement System

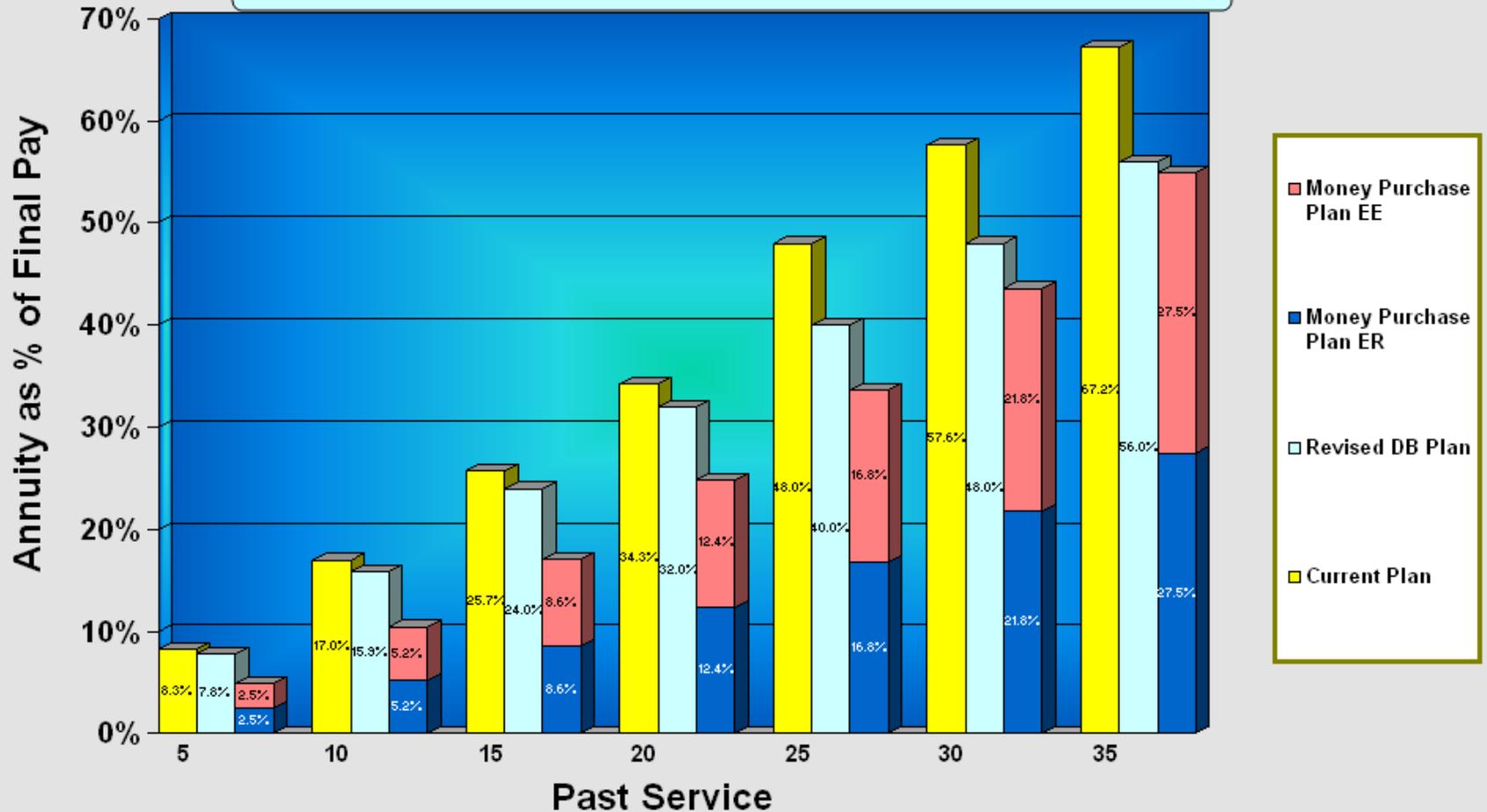
Current Age: 45, Past Service: 0
Current Pay: \$50,000, Salary Increase Rate: Variable

Income Replacement Ratios



Montana Public Employees' Retirement System

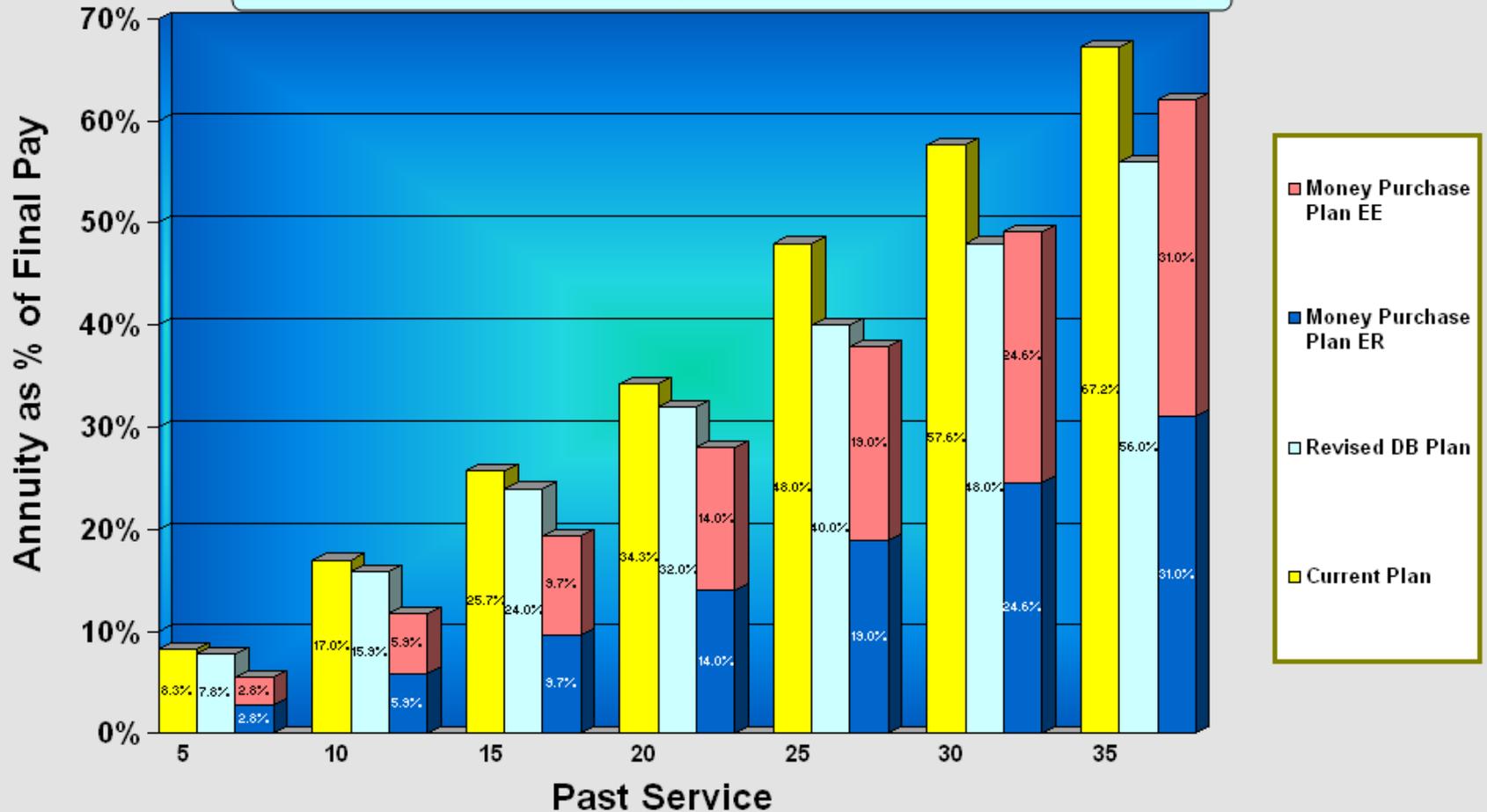
Income Replacement Ratios



Current Age: 60, Current Pay: \$60,000
Age at Termination: 60, Salary Increase Rate: Variable

Montana Public Employees' Retirement System

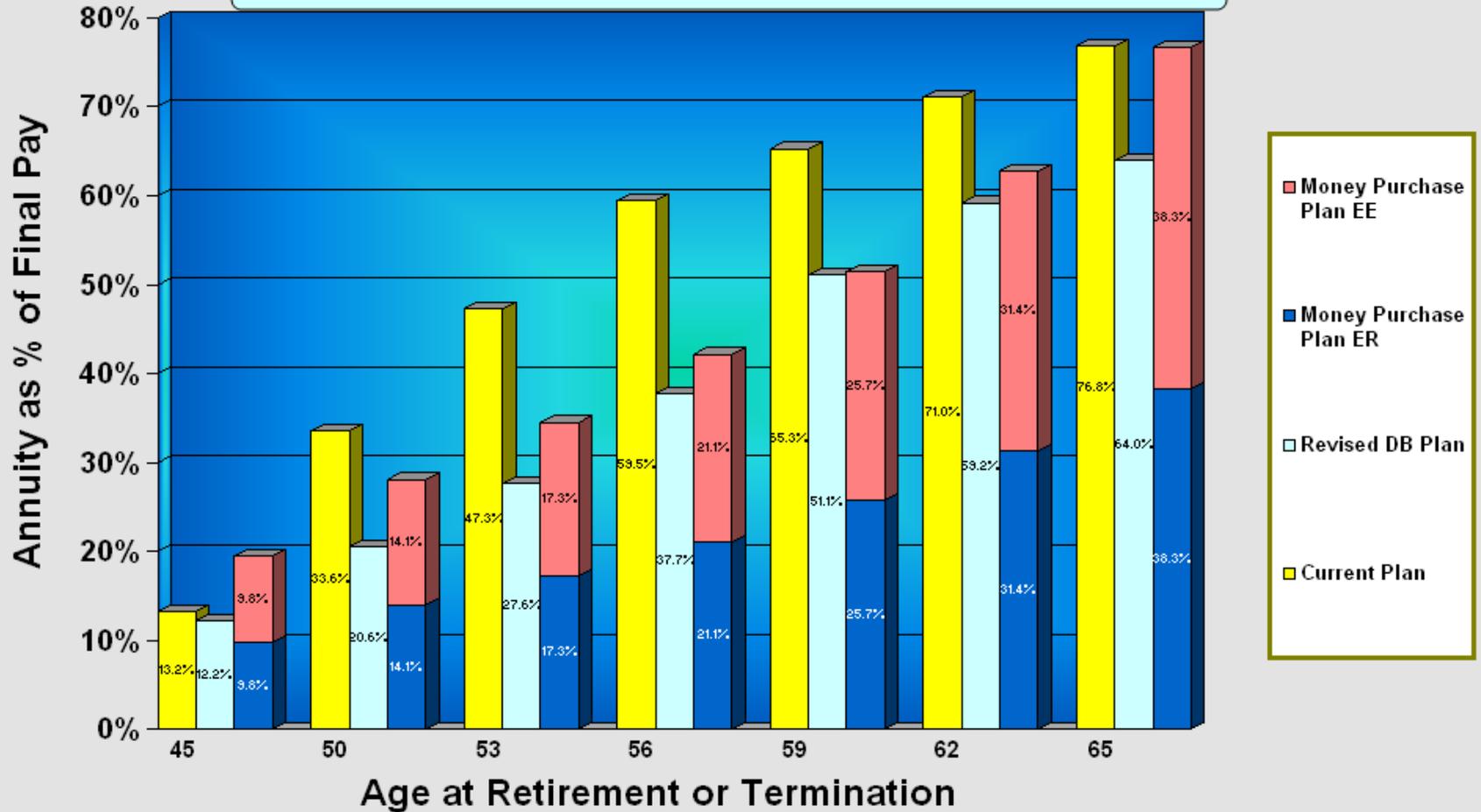
Income Replacement Ratios



Current Age: 65, Current Pay: \$60,000
Age at Termination: 65, Salary Increase Rate: Variable

Montana Public Employees' Retirement System

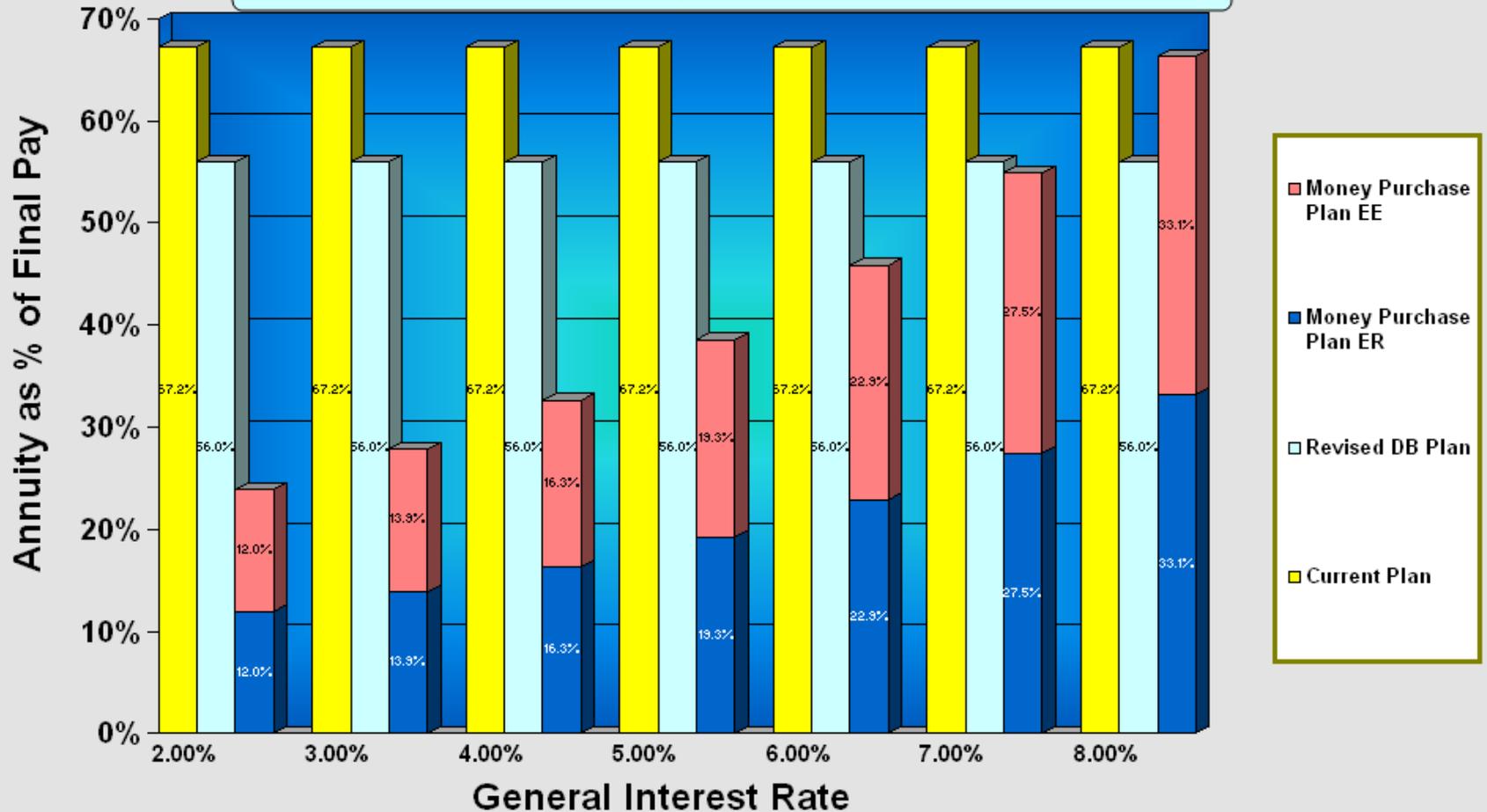
Income Replacement Ratios



Current Age: 25, Current Pay: \$30,000, Service: 0
Salary Increase Rate: Variable

Montana Public Employees' Retirement System

Income Replacement Ratios



Current Age: 25, Current Pay: \$30,000, Service: 0
Age at Termination: 60, Salary Increase Rate: Variable

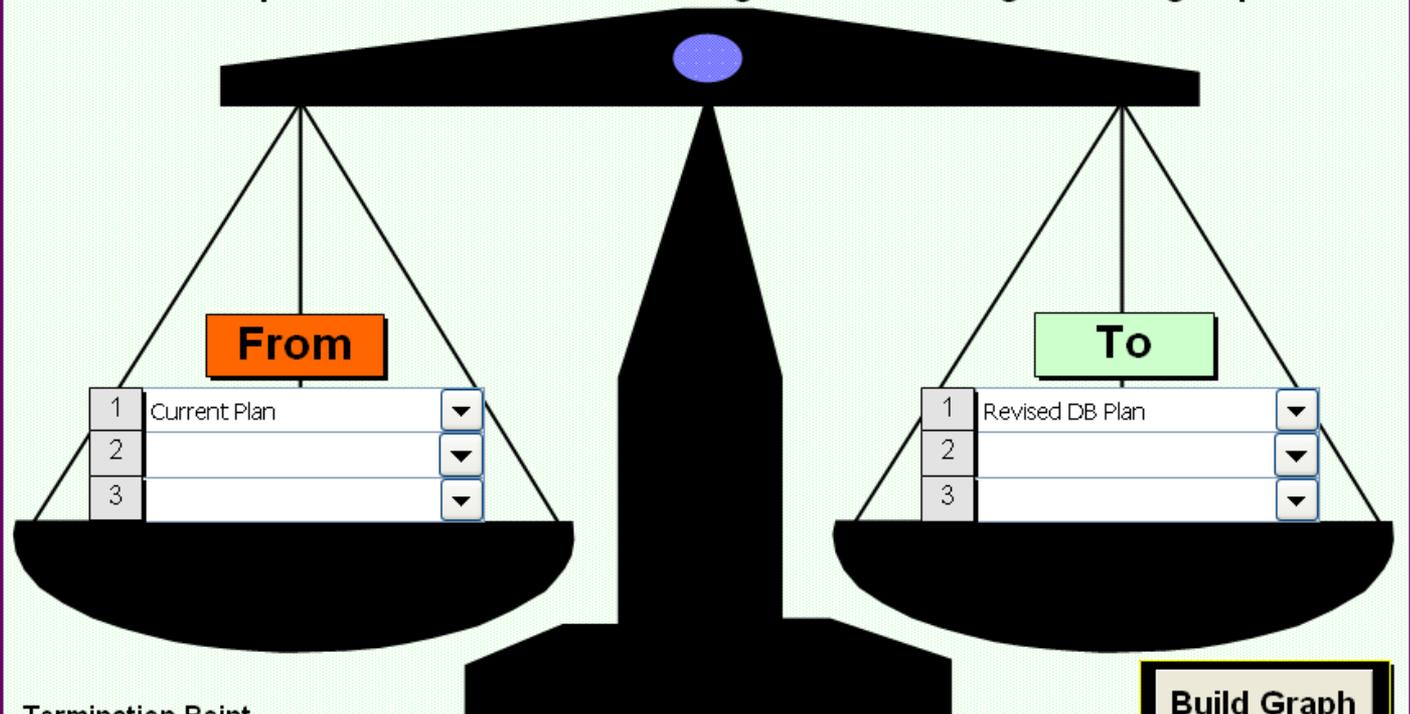
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Designer® for Public Employees' Retirement System

- The following exhibits compare benefits under the current plan to those under the Revised DB plan first and then the MPP plan
- The percentage listed in each cell shows the percentage increase or decrease in the benefit based on the age and service indicated for that cell
- Below the percentage increase or decrease is the number of members with that age/service combination and the average salary of those members
- The comparisons are shown based on an age at retirement of 50, 55, 60 and 65 in successive exhibits

Benefit Comparison Distribution ("Winners & Losers")

This section will plot the distribution of the changes in benefit in age/service groups.



Termination Point
 Age at Termination: 60

Salary at Age 20
 use entered salaries
 N/A

Salary Increase Rate
 4.50%

Inflation Adjustment
 N/A

Comparison based on:
 Annuities
 Lump Sums

Full Calculation
 Use Data1-Data4

Show Participant Counts
 Show Current Salaries

Build Graph

Enter Data

Main Menu

Return

Montana Public Employees' Retirement System

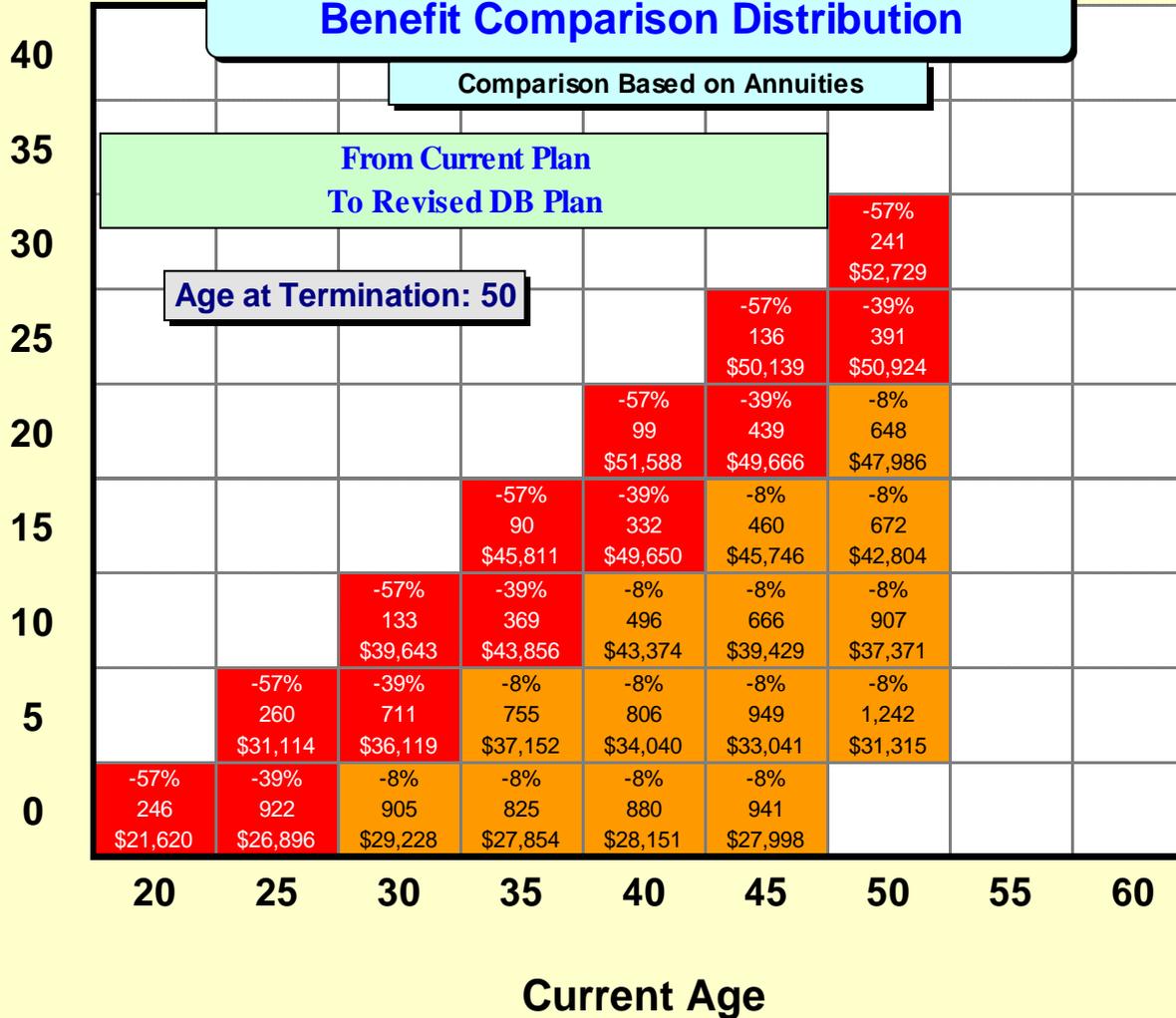
Current Service

Benefit Comparison Distribution

Comparison Based on Annuities

From Current Plan
To Revised DB Plan

Age at Termination: 50



Cells Show
Benefit Change
Participant Count
Average Salary

Montana Public Employees' Retirement System

Current Service

Benefit Comparison Distribution

Comparison Based on Annuities

From Current Plan
To Revised DB Plan

Age at Termination: 60

40									-17%	68	\$55,524
35									-17%	163	\$55,553
30									-17%	241	\$52,729
25									-17%	136	\$50,139
20									-17%	99	\$51,588
15									-17%	90	\$45,811
10									-17%	133	\$39,643
5									-17%	260	\$31,114
0									-17%	246	\$21,620
	20	25	30	35	40	45	50	55	60		

Cells Show
Benefit Change
Participant Count
Average Salary

Montana Public Employees' Retirement System

Current Service

Benefit Comparison Distribution

Current Service	20	25	30	35	40	45	50	55	60
40									-17% 68 \$55,524
35									-17% 163 \$55,553
30									-17% 241 \$52,729
25									-17% 136 \$50,139
20									-17% 99 \$51,588
15									-17% 90 \$45,811
10									-17% 133 \$39,643
5									-17% 260 \$31,114
0									-17% 246 \$21,620
									-17% 922 \$26,896
									-17% 905 \$29,228
									-17% 825 \$27,854
									-17% 880 \$28,151
									-7% 941 \$27,998
									-7% 1,209 \$27,852
									-7% 955 \$25,486
									-7% 775 \$25,617
									-7% 1,005 \$31,416
									-7% 1,126 \$31,818
									-7% 1,242 \$31,315
									-7% 949 \$33,041
									-7% 666 \$39,429
									-7% 496 \$43,374
									-7% 369 \$43,856
									-7% 133 \$39,643
									-7% 90 \$45,811
									-7% 99 \$51,588
									-7% 136 \$50,139
									-7% 241 \$52,729
									-7% 163 \$55,553
									-7% 68 \$55,524

Age at Termination: 65

Cells Show
Benefit Change
Participant Count
Average Salary

Current Age

Montana Public Employees' Retirement System

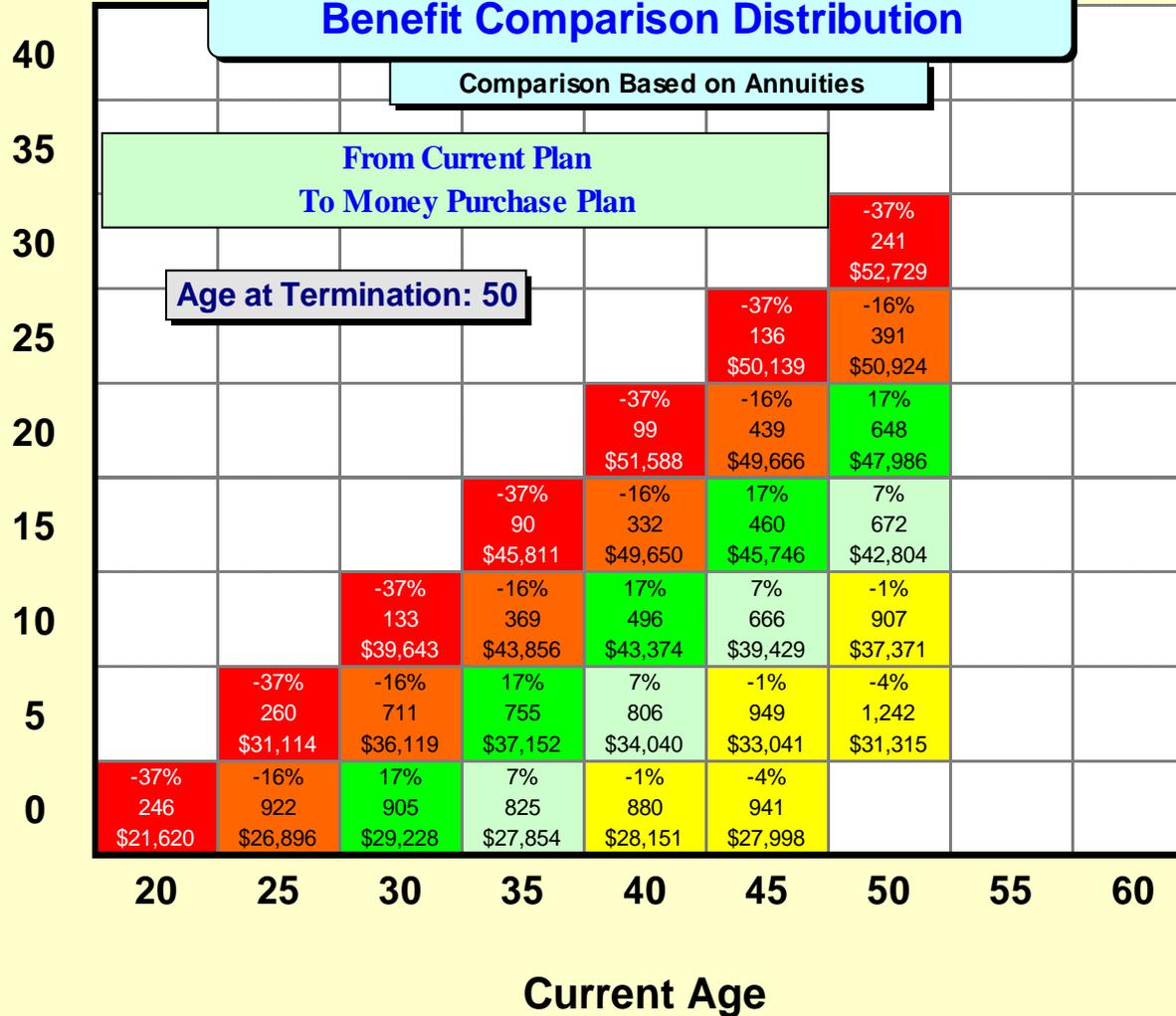
Current Service

Benefit Comparison Distribution

Comparison Based on Annuities

From Current Plan
To Money Purchase Plan

Age at Termination: 50



Cells Show
Benefit Change
Participant Count
Average Salary

Montana Public Employees' Retirement System

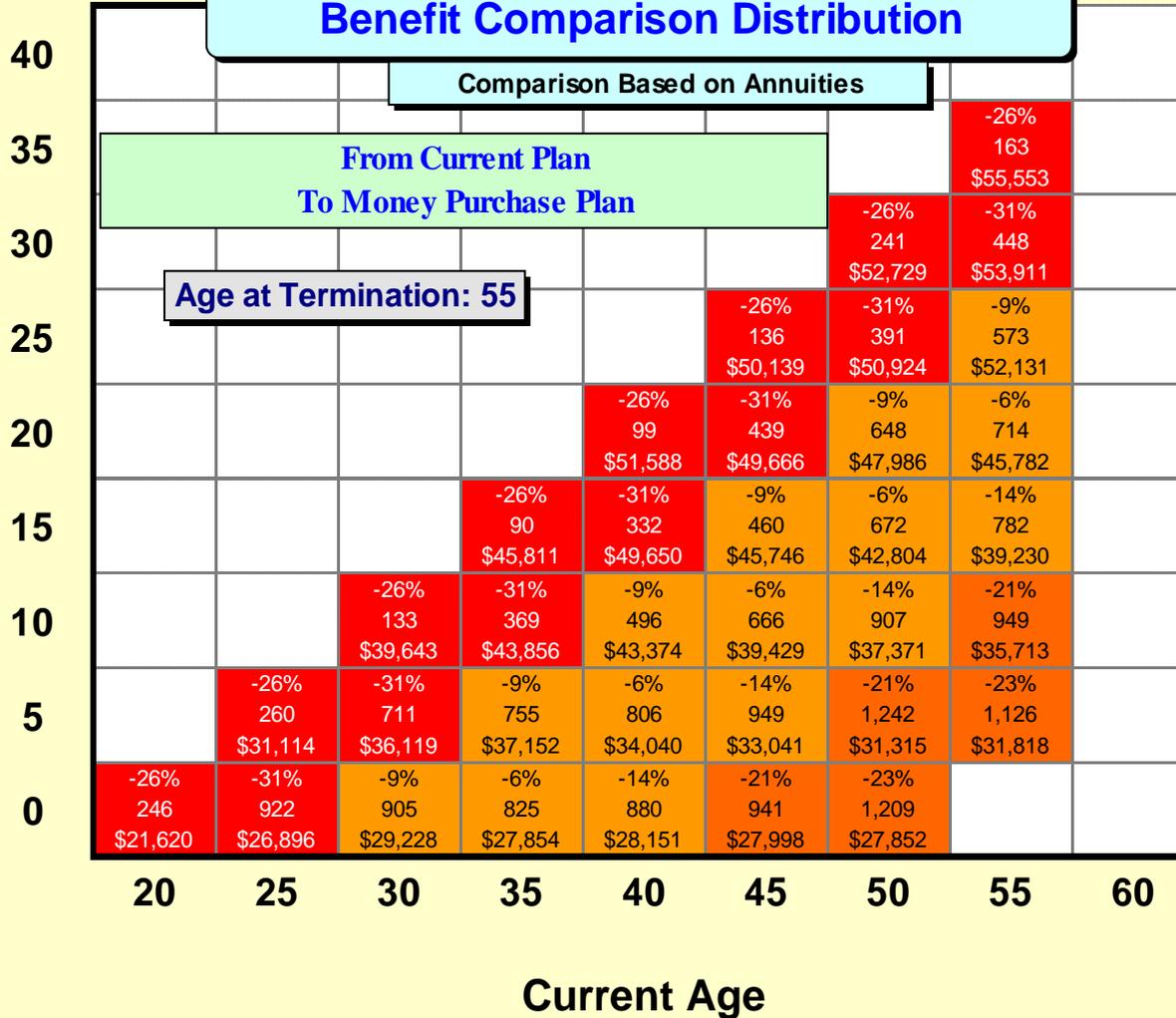
Current Service

Benefit Comparison Distribution

Comparison Based on Annuities

From Current Plan
To Money Purchase Plan

Age at Termination: 55



Cells Show
Benefit Change
Participant Count
Average Salary

Montana Public Employees' Retirement System

Current Service

Benefit Comparison Distribution

Current Service	20	25	30	35	40	45	50	55	60		
40									-12% 68 \$55,524		
35								-12% 163 \$55,553	-18% 232 \$56,379		
30							-12% 241 \$52,729	-18% 448 \$53,911	-24% 376 \$52,161		
25						-12% 136 \$50,139	-18% 391 \$50,924	-24% 573 \$52,131	-30% 554 \$45,330		
20					-12% 99 \$51,588	-18% 439 \$49,666	-24% 648 \$47,986	-30% 714 \$45,782	-28% 812 \$41,507		
15					-12% 90 \$45,811	-18% 332 \$49,650	-24% 460 \$45,746	-30% 672 \$42,804	-28% 782 \$39,230	-33% 791 \$37,780	
10					-12% 133 \$39,643	-18% 369 \$43,856	-24% 496 \$43,374	-30% 666 \$39,429	-28% 907 \$37,371	-33% 949 \$35,713	-39% 971 \$34,944
5		-12% 260 \$31,114	-18% 711 \$36,119	-24% 755 \$37,152	-30% 806 \$34,040	-28% 949 \$33,041	-33% 1,242 \$31,315	-39% 1,126 \$31,818	-41% 1,005 \$31,416		
0	-12% 246 \$21,620	-18% 922 \$26,896	-24% 905 \$29,228	-30% 825 \$27,854	-28% 880 \$28,151	-33% 941 \$27,998	-39% 1,209 \$27,852	-41% 955 \$25,486			
	20	25	30	35	40	45	50	55	60		

Age at Termination: 60

From Current Plan
To Money Purchase Plan

Comparison Based on Annuities

Cells Show
Benefit Change
Participant Count
Average Salary

Current Age

Montana Public Employees' Retirement System

Current Service

Benefit Comparison Distribution

Current Service	20	25	30	35	40	45	50	55	60
40								8%	8%
								68	68
								\$55,524	\$55,524
35								8%	0%
								163	232
								\$55,553	\$56,379
30								8%	0%
								241	448
								\$52,729	\$53,911
25								8%	0%
								136	391
								\$50,139	\$50,924
20								8%	0%
								99	439
								\$51,588	\$49,666
15								8%	0%
								90	332
								\$45,811	\$49,650
10								8%	0%
								133	369
								\$39,643	\$43,856
5								8%	0%
								260	711
								\$31,114	\$36,119
0								8%	0%
								246	922
								\$21,620	\$26,896
								8%	0%
								905	905
								\$29,228	\$29,228
								8%	0%
								825	825
								\$27,854	\$27,854
								8%	0%
								880	880
								\$28,151	\$28,151
								8%	0%
								941	941
								\$27,998	\$27,998
								8%	0%
								1,209	1,209
								\$27,852	\$27,852
								8%	0%
								955	955
								\$25,486	\$25,486
								8%	0%
								775	775
								\$25,617	\$25,617

Age at Termination: 65

Cells Show
Benefit Change
Participant Count
Average Salary

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Designer® for Public Employees' Retirement System

- The final exhibit estimates the relative cost of the current plan and the revised DB plan
- Cost are based on the current population, assuming the eventual membership under any revised plan will have the same demographic characteristics of the current group
- Costs are compared using the present value of future benefits at entry age which will directly relate to the annual normal cost (the cost of benefits accruing in the current year) under the Entry Age cost method
- The nature of the Money Purchase Plan does not allow its cost to be estimated in the same way - for comparison purposes, the normal cost for the MPP can be estimated as the sum of the member contributions and employer pay credits, adjusted for vesting and for assumed long term investment returns above the interest credits

Cost Analyzer

Actuarial Assumptions for Cost Calculation

Mortality..... UP 1994 -1

Setback..... 0

Interest..... 7.75%

Proportion Males..... 43%

NOTE: This Basis will override Bases 1, 4, & Retiree Medical during run time!

	Annuity	Lump
Current Plan	100%	0%
Revised DB Plan	100%	0%

Aggregate Cost	Current Plan	Revised DB Plan	Ratio
Single	-	-	#DIV/0!
Total	569,482,037	491,734,450	86%

Cell #	Age	Service	Average Salary	Frequency
177	13	0	\$3,232	1

Vesting Requirement:

Current Plan..... 0 Years

Proposed Plan..... 0 Years

Run

Initial Setup

Main Menu

Cost Benchmarking

Print

Return

